



United States Environmental Protection Agency
Office of Environmental Measurement & Evaluation
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Laboratory Report

December 13, 2017

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US EPA New England R1

Project Number: 17110022

Project: Merrymeeting River - New Durham, NH

Analysis: Nitrogen by Lachat

EPA Chemist: Bhavita Patel

Date Samples Received by the Laboratory: 11/14/2017

Analytical Procedure:

All samples were received and logged in by the laboratory according to the USEPA New England Laboratory SOP for Sample Log-in.

Sample preparation and analysis was done following the EPA Region I SOP, INGNO2NO30.

For unpreserved samples results of NO₂ and NO₃ will be reported as ions and as nitrogen.

For preserved samples combined NO₂ NO₃ will be reported as nitrogen.

For total nitrogen (sum of nitrate-nitrogen, nitrite-nitrogen, ammonia-nitrogen and organically bonded nitrogen)) result will be reported as nitrogen.

Data were reviewed in accordance with the internal verification procedures described in the EPA New England Quality Manual for NERL.

Results relate only to the items tested or to the samples as received by the Laboratory. This analytical report shall not be reproduced except in full, without written approval of the laboratory.

If you have any questions please call me at 617-918-8340 .

Sincerely,

17110022\$TNL

Qualifiers:

RL = Reporting limit

ND = Not Detected above Reporting limit

NA = Not Applicable due to high sample dilutions or sample interferences

NC = Not calculated since analyte concentration is ND.

J = Estimated value

J1 = Estimated value due to MS recovery outside acceptance criteria

J2 = Estimated value due to LFB result outside acceptance criteria

J3 = Estimated value due to RPD result outside acceptance criteria

J4 = Estimated value due to LCS result outside acceptance criteria

E = Estimated value exceeds the calibration range

L = Estimated value is below the calibration range

B = Analyte is associated with the lab blank or trip blank contamination. Values are qualified when the observed concentration of the contamination in the sample extract is less than 10 times the concentration in the blank.

R = No recovery was calculated since the analyte concentration is greater than four times the spike level.

P = The confirmation value exceeded 35% difference and is less than 100%. The lower value is reported.

C = The identification has been confirmed by GC/MS.

A = Suspected Aldol condensation product.

N = Tentatively identified compound.

Merrymeeting River - New Durham, NH

Nitrogen by Lachat

Client Sample ID: MM01
Date of Collection: 11/14/2017
Date of Preparation: 11/15/2017
Date of Analysis: 11/29/2017
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A
Volume Extracted: N/A
Final Volume: N/A

Lab Sample ID: AB71182
Matrix: Water
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 1
pH: N/A
GPC Factor: N/A

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
	Combined Nitrate & Nitrite	ND	23	
	Total Nitrogen	77	45	

Merrymeeting River - New Durham, NH

Nitrogen by Lachat

Client Sample ID: PM01
Date of Collection: 11/14/2017
Date of Preparation: 11/15/2017
Date of Analysis: 11/29/2017
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A
Volume Extracted: N/A
Final Volume: N/A

Lab Sample ID: AB71183
Matrix: Water
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 1
pH: N/A
GPC Factor: N/A

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
	Combined Nitrate & Nitrite	ND	23	
	Total Nitrogen	140	45	

Merrymeeting River - New Durham, NH

Nitrogen by Lachat

Client Sample ID: PM02
Date of Collection: 11/14/2017
Date of Preparation: 11/15/2017
Date of Analysis: 11/29/2017
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A
Volume Extracted: N/A
Final Volume: N/A

Lab Sample ID: AB71184
Matrix: Water
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 1
pH: N/A
GPC Factor: N/A

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
	Combined Nitrate & Nitrite	ND	23	
	Total Nitrogen	220	45	

Merrymeeting River - New Durham, NH

Nitrogen by Lachat

Client Sample ID: MM02
Date of Collection: 11/14/2017
Date of Preparation: 11/15/2017
Date of Analysis: 11/29/2017
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A
Volume Extracted: N/A
Final Volume: N/A

Lab Sample ID: AB71185
Matrix: Water
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 1
pH: N/A
GPC Factor: N/A

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
	Combined Nitrate & Nitrite	ND	23	
	Total Nitrogen	140	45	

Merrymeeting River - New Durham, NH

Nitrogen by Lachat

Client Sample ID:	MM03	Lab Sample ID:	AB71186
Date of Collection:	11/14/2017	Matrix:	Water
Date of Preparation:	11/15/2017	Amount Prepared:	N/A
Date of Analysis:	11/29/2017	Percent Solids:	N/A
Dry Weight Prepared:	N/A	Extract Dilution:	1
Wet Weight Prepared:	N/A	pH:	N/A
Volume Extracted:	N/A	GPC Factor:	N/A
Final Volume:	N/A		

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
	Combined Nitrate & Nitrite	ND	23	
	Total Nitrogen	140	45	

Merrymeeting River - New Durham, NH

Laboratory Blank for Nitrogen by Lachat

Client Sample ID:	N/A	Lab Sample ID:	N/A
Date of Collection:	N/A	Matrix:	Water
Date of Preparation:	11/15/2017	Amount Prepared:	N/A
Date of Analysis:	11/29/2017	Percent Solids:	N/A
Dry Weight Prepared:	N/A	Extract Dilution:	N/A
Wet Weight Prepared:	N/A	pH:	N/A
Volume Extracted:	N/A	GPC Factor:	N/A
Final Volume:	N/A		

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
	Combined Nitrate & Nitrite	ND	23	
	Total Nitrogen	ND	45	

Merrymeeting River - New Durham, NH

Nitrogen by Lachat

Client Sample ID: DUP6
Date of Collection: 11/14/2017
Date of Preparation: 11/15/2017
Date of Analysis: 11/29/2017
Dry Weight Prepared: N/A
Wet Weight Prepared: N/A
Volume Extracted: N/A
Final Volume: N/A

Lab Sample ID: AB71187
Matrix: Water
Amount Prepared: N/A
Percent Solids: N/A
Extract Dilution: 1
pH: N/A
GPC Factor: N/A

CAS Number	Compound	Concentration ug/L	RL ug/L	Qualifier
	Combined Nitrate & Nitrite	ND	23	
	Total Nitrogen	220	45	

Merrymeeting River - New Durham, NH

MATRIX SPIKE (MS) RECOVERY

Sample ID: AB71186

PARAMETER	SPIKE ADDED ug/L	SAMPLE CONCENTRATION ug/L	MS CONCENTRATION ug/L	MS % REC	QC LIMITS (% REC)
Combined Nitrate & Nitrite	600	ND	592	99	80 - 120
Total Nitrogen	600	140	787	108	80 - 120

Merrymeeting River - New Durham, NH

Laboratory Duplicate Results

Sample ID: AB71186

PARAMETER	SAMPLE RESULT ug/L	SAMPLE DUPLICATE RESULT ug/L	PRECISION RPD %	QC LIMITS
Combined Nitrate & Nitrite	ND	ND	NC	20
Total Nitrogen	140	140	0	20

Merrymeeting River - New Durham, NH

Laboratory Fortified Blank (LFB) Results

PARAMETER	LFB AMOUNT SPIKED ug/L	LFB RESULT ug/L	LFB RECOVERY %	QC LIMITS %
Combined Nitrate & Nitrite	600	615	102	80 - 120
Total Nitrogen	600	651	108	80 - 120

Comments:

Samples in Batch: AB71182, AB71183, AB71184, AB71185, AB71186, AB71187

CHAIN OF CUSTODY RECORD

[illegible]